



US Army Corps  
of Engineers

# ENGINEERING AND CONSTRUCTION BULLETIN

No. 2002-18 Issuing Office: CECW-EWS Issued: 10 July 2002 Expires: 10 July 2004

**Subject:** Manning's n Value for Culverts

**Applicability:** Guidance

1. Background: District design personnel, who have the requirement for sizing, designing, and specifying culverts, require a reliable listing of Manning's coefficient for various pipe (culvert) materials. Manufacturers of culvert piping have been recommending various coefficients of roughness (Manning's n values) for design. The use of various or incorrect values may cause improper sizing of the piping or cause an unfair advantage for a particular type of culvert material.
2. Purpose: The purpose of this bulletin is to direct USACE design engineers to a source that lists values of Manning's coefficient for various pipe (culvert) materials.
3. Policy: USACE design engineers shall use the n values listed in Table 4, Manning's n Values for Culverts, on page 33 of the Federal Highway Administration (FHWA) Publication No. FHWA-NH1-01-020, Hydraulic Design Series Number 5, "Hydraulic Design of Highway Culverts," dated September 2001. This document is located on the Internet at <http://isddc.dot.gov/OLPFiles/FHWA/010435.pdf>.
4. Notes: Actual n values experienced in field applications differ from those used in design and normally increase with age. Because pipe roughness values increase, the use of conservative n values is considered good engineering practice. The design engineer shall also consider the user's preferences for pipe materials and maintenance requirements.
5. Point of contact for this bulletin is Gregory W. Hughes, CECW-EWS, 202-761-7771.

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